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ABSTRACT

For those who have not had the opportunity to develop the specific knowledge, skills, and abilities needed to qualify for technical and professional positions, training programs and job restructuring can mean the beginning of a career with a chance for upward mobility in salary and responsibility. Steps in job restructuring are: (1) determine the relationship of the job to the system of which it is a part, (2) describe the job tasks, (3) estimate the average time required for the tasks, (4) rate each task in regard to difficulty, (5) rate each task in terms of general education development, and (6) group tasks according to worker functions and general education development. After determining the tasks, it is necessary to structure the training program by determining the knowledges and skills to be learned, abilities to be developed, and decisions to be made. Also, when restructuring jobs, considerable thought should be given to those positions that will result in a career ladder. Examples of job restructuring, career ladders development, and training sequence are included. A related document is available as VT 012 079 in this issue. (SB)

EDO 44530

Reference File No. 7

Public Employment and the Disadvantaged

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How to Structure Job Tasks for Training the Disadvantaged

VT012030

NATIONAL CIVIL SERVICE LEAGUE, 1028 CONN. AVE., N.W. WASHINGTON, D. C. 20036

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NATIONAL CIVIL SERVICE LEAGUE

A public personnel system that is responsive to and relevant to its times . . . work for this ideal has been the National Civil Service League's mission since it started in 1881. The NCSL organized to halt the rampant corruption produced by the patronage system of government appointments.

When a disgruntled office seeker killed President James A. Garfield in 1881 the country became as alarmed as the national leaders—such as Theodore Roosevelt and Carl Schurz—who founded the NCSL. Spurred by NCSL leadership, Congress passed the first national civil service law—a law drafted by the League—which decreed that public appointments were to be made according to the applicants' merits.

Over the years, the League has fought for better government via the installation of the merit system nationwide. Today we point proudly to the 36 state governments plus hundreds of cities and counties which now hire according to merit.

The League continues to serve as a chief spokesman and mentor of the merit system. We stand for it, and we speak to its flexibility to meet public challenges and to provide a public personnel system that is truly relevant to today!

In recent months, the League has turned its attention to two areas of national concern: the growing shortage of personnel for government jobs, and the need of the disadvantaged for meaningful, "real" jobs. The League believes that each of these problems carries the other's solution. Yet civil service systems often seem designed purposely to frustrate the hiring of would-be employees.

The League believes that rules and regulations designed to facilitate the merit system in the 1890's or the 1930's do not necessarily serve the 1970's. Further, the League knows that many jurisdictions around the country—state, county and city—want to revise their personnel structures to fit today. But how, and in what direction?

It is to provide such leadership relevant to this age that the League developed a new project: Public Employment and the Disadvantaged. The League is working with public and private leaders in cities, counties and states to help bring the disadvantaged into public employ.

SEPTEMBER 1970

The writing and publication of this article constitute part of a League project, Public Employment and the Disadvantaged, which is financed by a contract with the Department of Housing and Urban Development.

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How to Structure Job Tasks for Training the Disadvantaged

FOREWORD

One requirement of the Model Cities program is the employment of Model Neighborhood residents. Since many of these residents have not had an opportunity to develop the specific knowledge, skills and abilities needed to qualify for technical and professional positions, it is necessary for Model City Agencies to find ways of restructuring jobs and developing training programs to help residents get started in a career that will not only pay an adequate income, but which will provide for gradual upward movement to positions requiring development of their full potential.

The booklet *Training the Disadvantaged,* Public Employment and the Disadvantaged Reference File No. 5, describes characteristics of the trainee population and implications for trainers. It also gives the four-step method of job instruction.

Reference File No. 6, *Task Analysis for Training the Disadvantaged,* gives the procedure to break a job down into its various tasks as the first step in developing a training program. It also differentiates between vague training objectives and measurable performance objectives.

This booklet, *How to Structure Job Tasks for Training the Disadvantaged,* describes the procedure necessary to restructure jobs in a manner that makes it possible to employ inexperienced persons in interesting positions that can be, for them, the beginning of a career. In addition, it suggests way of designing training programs for the new positions.

HOW TO STRUCTURE JOB TASKS FOR TRAINING THE DISADVANTAGED

Before job tasks can be structured for training the disadvantaged, it may be necessary first to restructure jobs within the Model Cities Agency and its projects. The Manpower Administration, U.S. Department of Labor has published *A Handbook for Job Restructuring*[1] which describes a step-by-step procedure which will apply to the position of coordinator of sanitation in a Model City Agency as an example of how job restructuring may be done as a prelude to structuring tasks for training.

RESTRUCTURING JOBS

The factors to be taken into consideration in restructuring a job are the same ones that should be taken into consideration when any job is created.

1. What are the specific tasks of the job?
2. What level of difficulty are these tasks?
3. What does a person need to know in order to do these tasks? (General Educational Development).

Specific Tasks It is important to realize that you cannot obtain sufficiently detailed information about specific tasks performed on a job from the job description.

For example, in the job restructuring illustration in the next section, the job description gave one duty as follows:

> Selects eligible applicants for job of Laborer-Sanitation Project.

From this statement it is not possible to determine the relative difficulty of the tasks involved in performing this duty.

The best method for getting information on specific tasks is to interview the person actually performing the job. Even then, only persistent questioning will develop the kind of detail that is necessary.

Here is a paraphrased excerpt from an interview which illustrates this point:

> ***Interviewer:*** Tell me, now, the last thing you did yesterday.
> *Sanitation Coordinator:* I notified applicants to come in for an interview this morning.
>
> ***Interviewer:*** How did you notify them, by telephone?
> *S. C.:* No, I sent out telegrams telling them to come in.
>
> ***Interviewer:*** Did you call Western Union, or what?
> *S. C.:* I gave a list to the secretary and she typed the telegrams.
>
> ***Interviewer:*** Did you give her a form to use?
> *S. C.:* Yes, I gave her a copy of the last telegram we used and a list of names.

It is this kind of detailed description of what is done that is necessary to restructure a job. If the coordinator had typed the telegrams himself, this would include a skill that is not necessary for the job as it is presently structured. Also, if the wording of the telegram is not based on previous telegrams, writing ability at a higher level would be required.

---

[1] *A Handbook for Job Restructuring*, (U.S. Department of Labor, Manpower Administration, 1970). For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D. C. 20402.

INTERVIEWING TECHNIQUES

Here are some suggestions for interviewing that will help in getting the information you need to restructure a job.

* Be sure the person you are interviewing understands why you are conducting the interview. Otherwise he may feel his job security is threatened and his anxiety may keep you from getting the information you need.

* Read a job description of the position before the interview if one is available.

* Ask the person you are interviewing to tell you "in his own words" what his job is.

* Then, ask him to start with the last thing he did on the previous day and go backwards through the day. (This takes more thought than starting at the beginning of the day, and fewer tasks he performed will be left out.)

* When he tells you something he did, for example, "I attended a meeting at the Department of Sanitation," ask questions like the following:

WHO else attended the meeting?
WHO was the chairman?
WHERE was the meeting held?
WHAT did you do at the meeting?
WHY was the meeting held?
WHEN (how often) is the meeting held?

Answers to these questions will reveal details that indicate the level of difficulty of the tasks he performs at the meeting.

* When you have what you believe is a complete list of the tasks he performs, ask him if he were to have an assistant and he wanted to use him in a way that would save him time, which of these tasks could the assistant perform with minimum instruction and no supervision. This will give you a good idea of the relative difficulty and amount of judgment he believes is inherent in each task.

Level of Difficulty of Tasks The Department of Labor has developed a chart (see Appendix A) as a general guide to ranking tasks according to their relative difficulty with **0** representing the most difficult task. In this chart, tasks are classified as to whether they are performed on Data, People, or Things. You may want to look at the chart while reading the following examples:

Example 1: Receive and review applications for jobs. Check to see that all information is filled in.

This task involves working with data at a relatively low level. By studying the chart under Data, we find the closest worker function to the activity described is:

6 Comparing (Inspection): Judging readily observable characteristics for comparability to or divergence from obvious standards.

Since the task does not involve people or things, we would use the number at the lowest level, 8 for People and 7 for Things. The three-part rating would be:

DATA: 6 PEOPLE: 8 THINGS: 7

The functional level would be expressed as 687.

Example 2: Inform receptionist which applicants have chauffeur licenses and which do not.

This task involves working with people at a relatively low level and the worker function under People which is closest to this activity is:

6 Speaking-Signaling: Talking with and/or signaling people to convey or exchange information. Includes listening and reading as well as giving assignments and/or directions to helpers or assistants.

This task involves Data at a relatively low level and does not involve Things, so the functional level would be expressed as 667.

Example 3: Attend weekly neighborhood council meetings to report on status of program and other proposals. Respond to questions as asked.

This activity includes Data and People. The worker function under Data is 1, People is 6 Speaking-Signaling. It would be rated under Things as 7. The functional level would be expressed as 167.

Further use of this guide is made in the example of job restructuring which begins on Page 5

General Educational Development General Educational Development (GED) embraces those aspects of education (formal and informal) which contribute to the worker's (a) reasoning development and ability to follow instructions, and (b) acquisition of "tool" knowledges, such as language and mathematical skills; it is education of a general nature which does not have a recognized, fairly specific, occupational objective. Ordinarily, such education is obtained in elementary school, high school, or college. It also derives from experience and individual study.

The GED scale which appears in Appendix B is composed of three divisions: reasoning development; mathematical development; and language development. Each division contains six levels, and each should be considered independently of the others in evaluating individual tasks. The lowest level in each division is 1; the highest is 6.

Illustrations of tasks representing the various levels are listed below. You may want to see the GED scale (Appendix B) in reviewing these examples.

Example 1: Receive and review application for job. Check to see that all information is filled in.

Performing this task would require a GED level of approximately 2 in reasoning and language development.

Example 2: Inform receptionist which applicants have chauffeur licenses and which do not.

This activity would require a GED level of 2 in reasoning and 1 in language development, consequently, it would be assigned the higher number (2).

Example 3: Attend weekly neighborhood council meetings to report on status of program and other proposals. Respond to questions as asked.

This activity requires a reasoning level of 4 and a language development level of 4.

Further use of the GED scale is made in the job restructuring example beginning on Page 5

Once the job has been analyzed to determine what tasks are performed, their level of difficulty and the GED required to perform them, the next step is to select those tasks which are lower level worker functions and which require lower General Educational Development. These are the tasks which probably can be put together to form a job which then will be a stepping-stone to the job that is being restructured.

EXAMPLE—JOB RESTRUCTURING

Position—Sanitation Coordinator

In this section we have worked through an example, step-by-step, of the restructuring of a job in a Model Cities Agency. The job is that of sanitation coordinator and the written job description follows:

Job Description
Sanitation Coordinator

Under general supervision performs work in providing sanitation services to the community. Coordinates activities of Sanitation Department with Model Neighborhood residents and Neighborhood Councils (NC) in assigning residents to jobs on the Model Cities (MC) Project. Selects eligible applicants for job of Laborer-Sanitation Project. Maintains contact with residents to determine effectiveness of the project. Maintains contact with sanitation supervisors assigned to the project to help solve supervisory problems. Reports periodically to Sanitation Department and Neighborhood Councils as to status of project, problems involved, and proposals for new projects.

Responsible to deputy director of program development.

PROCEDURE:

Step 1: Determine the relationship of the job to the system of which it is a part.

For this purpose the analyst should refer to an organization chart, or if there is none available, develop one. The chart should graphically show the relative level of the job being analyzed, who reports to whom, and areas of activity that are closely related to the position, but which are covered by other positions.

Step 2: Describe in detail the tasks that comprise the job and record them on a worksheet.

Step 3: Estimate the time required to perform each task during the average work day, or work week, and record on worksheet.

Step 4: Rate each task in regard to relative difficulty based on worker functions chart (Appendix A) and record the ratings on the worksheet.

Step 5: Rate each task in terms of General Educational Development (GED), (Appendix B) and record on worksheet.

SEE Figure 1

JOB RESTRUCTURING WORKSHEET

Job Title Sanitation Coordinator **Date** April 20, 19XX

Department Model Cities Agency **Supervisor** Deputy Director of Program Development

No.	Task Description	Time	Worker Functions			GED	Comments
			Data	People	Things		
1.	Receive and review applications for jobs (check to see that all information is filled in)	—	6	8	7	2	
2.	Sort applications according to date received and area	3	6	8	7	2	
3.	Make Xerox copy of each application	—	6	8	5	2	
4.	Select applicants (according to date and area) for job openings and have secretary send telegrams to report to work	2	6	6	7	3	
5.	Interview applicant to see if he has chauffeur's license and fill in any missing information on the application	2½	5	6	7	3	
6.	Escort applicants to medical examination room of the Bureau of Public Works	5	6	7	7	2	
7.	Inform receptionist which applicants have a chauffeur license	—	6	6	7	2	

Figure 1

JOB RESTRUCTURING WORKSHEET

Job Title Sanitation Coordinator **Date** April 20, 19XX

Department Model Cities Agency **Supervisor** Deputy Director of Program Development

No.	Task Description	Time	Worker Functions			GED	Comments
			Data	People	Things		
8.	Prepare daily report showing which applicants did and did not report and file report temporarily	3	3	8	7	2	
9.	Evaluate performance by riding on truck with sanitation crews	24	3	6	7	4	
10.	Solicit suggestions and complaints from individuals in the neighborhood	5	3	6	7	5	
11.	Check with supervisors on problems of the crew as to area of responsibility	—	3	6	7	4	
12.	Attend monthly meeting with the Bureau of Public Works to report complaints, suggestions, attendance and general evaluation	1	1	6	7	4	
13.	Attend weekly Neighborhood Council meetings to report on status of program and other proposals. Report to questions as asked	4	1	6	7	4	

Figure 1

JOB RESTRUCTURING WORKSHEET

Job Title Sanitation Coordinator **Date** April 20, 19XX

Department Model Cities Agency **Supervisor** Deputy Director of Program Development

No.	Task Description	Time	Worker Functions			GED	Comments
			Data	People	Things		
14.	Prepare weekly report from daily report on which applicants showed and which didn't	1	3	8	7	3	
	Total Time	50½					

Figure 1

Step 6: Group tasks according to worker functions and GED.

For example: Tasks 9, 10, 11, and 12 can be separated from the rest on this basis.

Step 7: Record groupings of tasks on worksheets (Figure 2—assistant coordinator's job and Figure 3—restructured sanitation coordinator's job).

Two separate groups stand out in this example: Tasks 1 through 7 and Tasks 9 through 13. The first group, 1-7, are at a relatively low level of worker function and GED and could be assigned to an assistant coordinator. The second group, 9-13, are at a relatively high level and should remain as coordinator activities. Tasks 8 and 14, preparation of daily and weekly reports, are at a medium level and could conceivably be included in either job. We included the daily report as part of the assistant's job with the coordinator preparing the weekly report. This gives the coordinator an opportunity to review the daily reports and in this way provides one way of supervising the assistant's activities. By the restructuring of another position, housing coordinator, additional similar duties requiring approximately 15 hours a week were assigned to the assistant coordinator. There would be approximately six hours a week available for on-the-job training when he could learn the more complex duties.

A sample copy of the worksheet used in this example is provided in Figure 4 which can be reproduced and used as a practical exercise.

JOB RESTRUCTURING WORKSHEET

(New Job Developed)

Job Title Assistant Coordinator **Date** April 20, 19XX

Department Model Cities Agency **Supervisor** Deputy Director of Program Development

No.	Task Description	Time	Worker Functions			GED	Comments
			Data	People	Things		
1.	Receives and reviews applications for jobs; checks to see that all information is filled in	—	6	8	7	2	
2.	Sorts applications according to date received and area	4	6	8	7	2	
3.	Makes Xerox copy of each application	—	6	8	5	2	
4.	Selects applicants (according to date and area) for job openings and has secretary send telegrams to report to work	3	6	6	7	3	
5.	Interviews applicant to find out if he has chauffeur's license and fills in any missing information on application	3	5	6	7	3	
6.	Escorts applicants to medical examination room of the Bureau of Public Works	5	6	7	7	2	
7.	Tells receptionist which applicants have a chauffeur's license	—	6	6	7	2	

Figure 2

JOB RESTRUCTURING WORKSHEET

(New Job Developed)

Job Title Assistant Coordinator **Date** April 20, 19XX

Department Model Cities Agency **Supervisor** Deputy Director of Program Development

No.	Task Description	Time	Worker Functions			GED	Comments
			Data	People	Things		
8.	Prepares daily report showing which applicants did and did not report	4	3	8	7	2	
	* Total Time	19					
	* These are estimates with some allowance made for the inexperience of the assistant. An additional amount of his time would be utilized as on-the-job training time when he would be with the coordinator learning the more complex duties.						

Figure 2

JOB RESTRUCTURING WORKSHEET

Job Title Sanitation Coordinator **Date** April 20, 19XX

Department Model Cities Agency **Supervisor** Deputy Director of Program Development

No.	Task Description	Time	Worker Functions			GED	Comments
			Data	People	Things		
9.	Evaluates performance of work crews by riding on truck	24	3	6	7	4	
10.	Solicits suggestions and complaints from individuals in the neighborhood	5	3	6	7	5	
11.	Checks with supervisors on problems	1	3	6	7	4	
12.	Attends monthly meeting with Sanitation Department to report complaints, suggestions, attendance, and general evaluation of program	1	1	6	7	4	
13.	Attends weekly Neighborhood Council meetings to report on status of program and other proposals. Responds to questions as asked	4	1	6	7	4	
14.	Prepares weekly report from daily report showing status of workers	1	3	8	7	3	
15.	Supervises and trains assistant	4	6	3	7	4	
	* Total Time	40					

* Rather than a shorter work week, this means the coordinator will have more time for tasks 9, 10 and 11 and he will be helping to develop another person in a worthwhile job.

Figure 3

(Sample Form) JOB RESTRUCTURING WORKSHEET

Job Title _____ **Date** _____

Department _____ **Supervisor** _____

No.	Task Description	Time	Worker Functions			GED	Comments
			Data	People	Things		

Figure 4

CAREER LADDERS

Since the primary purpose of job restructuring is to provide upward mobility, considerable thought should be given to those positions which through restructuring will result in a career ladder with a series of positions of gradually increasing difficulty. Figure 5, on this and the facing page, is an example of a career ladder developed from the position of community organizer.

FROM THIS POSITION → COMES

COMMUNITY ORGANIZER

DUTIES:

1. Makes personal contacts with Model Neighborhood residents.
2. Recommends community service agencies which can meet the particular needs of individuals or families.
3. Reports on problems affecting the neighborhood.
4. Follows up on problems and keeps in touch by visiting and making inquiries.
5. Assists in the organization of Neighborhood Councils.
6. Seeks to motivate persons in need to seek and accept help from various community service agencies.
7. Makes contacts with agencies on behalf of persons needing services and assists in coordinating the efforts of various agencies servicing an individual or family.
8. Consults with Neighborhood Councils on program improvement and effectiveness.

QUALIFICATIONS:

Education: Graduation from four-year college.

Experience: Four years experience in providing the public with health, welfare, or employment services or in teaching.

Knowledge and Skills: Knowledge of individual and group behavior and of the methods and techniques for developing and maintaining effective individual and group relationships; knowledge of the function and organization of community service agencies; knowledge and understanding of conditions of poverty; ability and willingness to work long hours, including evenings and weekends.

TRAINEE COMMUNITY ORGANIZER ASSISTANT

Makes contacts with residents; reports on Model Neighborhood residents' problems; maintains contact, recommends agencies; reports on problems affecting neighborhood; attends classes and meetings (in-service-training).

Training and Experience:

None

Knowledge and Skills:

Knowledge and understanding of the problems and needs of residents of Model Neighborhood; ability to learn duties and responsibilities of a CO assistant; ability to communicate.

Figure 5

THIS CAREER LADDER

COMMUNITY ORGANIZER ASSISTANT I

In addition to duties of trainee: refers Model Neighborhood residents in routine cases to agencies; assists in organization of Neighborhood Councils.

Training and Experience:

Successful completion of a training course for community organizer assistant or any combination of training and experience which provides necessary knowledge and skills.

Knowledge and Skills:

In addition to requirements of trainee: general knowledge of the function of community service agencies; ability to maintain effective relationships with public and other staff members; ability to communicate effectively orally and in writing.

COMMUNITY ORGANIZER ASSISTANT II

In addition to duties of CO assistant I: follows up on problems; investigates more difficult problems; may supervise.

Training and Experience:

In addition to CO assistant I: completion of the tenth grade and some paid work experience; additional training in high school or college may be substituted on a year for year basis for the experience requirement. Completion of training course in basic supervision.

Knowledge and Skills:

In addition to CO assistant I: understanding of supervisor's role in motivating, coordinating, planning and controlling activities of subordinates.

COMMUNITY ORGANIZER ASSISTANT III

Assists in supervising CO assistants; motivates persons in need to seek and accept help; makes contacts with agencies and coordinates efforts of various agencies; follows up on all referals; consults with Neighborhood Councils; acts for superior in his absence.

Training and Experience:

Training and experience in working with social problems of socially and economically deprived individuals. Experience as a community organizer assistant to be given double credit toward this requirement. Completion of basic supervision course.

Knowledge and Skills:

In addition to CO assistant II: knowledge and understanding of individual and group behavior and of the methods and techniques of developing and maintaining effective individual and group relationships; demonstrated supervisory ability.

COMMUNITY ORGANIZER

In addition to duties of CO assistant III: supervises program activities in an assigned area.

Training and Experience:

In addition to requirements on previous page: completion of advanced supervisory training course; demonstrated writing skills of sensitivity to needs. Experience as community organizer assistant will be given double credit toward experience requirement.

Knowledge and Skills:

In addition to requirements on previous page: demonstrated supervisory ability.

COMMUNITY ORGANIZER SUPERVISOR

Supervises and trains CO's and CO assistants; assists in recruiting and selecting CO's and assistants; reports on results and effectiveness of program; suggest improvements in and additions; or dropping of programs.

Training and Experience:

Progressively responsible experience in providing the public with health, welfare, or employment services, one year of which must have been in a supervisory capacity. Experience as a community organizer will be given double credit; completion of basic and advanced supervisory courses.

Knowledge and Skills:

Same as community organizer.

STRUCTURING TRAINING ELEMENTS

Once you have established what tasks are to be performed in a particular job, the next step is to determine what *knowledge* and *skills* must be learned, what *abilities* must be developed, and what *decisions* must be made by the trainee.

Working from the task list of the new job developed for an assistant coordinator we would determine the knowledge, skills, and abilities and decisions in the following manner:

1. Break each task into its elements; record on training task worksheet; see Figure 6.
2. Determine performance objectives required for the task; record on worksheet.
3. Determine the knowledge, skills, abilities and decisions required by the task elements; record on worksheet.
4. Decide whether the specific knowledge or skill should be acquired in a classroom learning experience or on the job.
5. Arranging the content of the training in the best sequence, prepare training content outline, including materials to be developed for use in the training.

We have prepared completed worksheets for Tasks 1, 2 and 5 of the assistant coordinator's job to provide an example of how training content is developed and sequenced. Figure 7 is a sample training task worksheet.

The worksheets may seem unnecessarily detailed (and you may want to simplify them) but they reduce guess work, improve communications and prevent oversights. Much poor performance attributed to trainees results from inadequate methods used by the trainer, who assumes the trainees know more than they do about the specific job.

TRAINING TASK WORKSHEET

Job Title Assistant Coordinator **Date** April 23, 19XX

TASK: 1. Receives and reviews applications for jobs. Checks to see that all information is filled in.

ELEMENTS:

1.1 Removes applications from "in" box.

1.2 Scans applications to be sure all spaces are filled in. (Compare with completed sample if necessary.)

1.3 If a line is not filled in, puts small check mark with red pencil at beginning of line.

1.4 Puts red check mark in upper right hand corner of application if information is missing from application.

1.5 Puts all applications in one pile.

PERFORMANCE OBJECTIVE: The trainee will be able to recognize omissions of information from applications and will indicate where the information should be.

KNOWLEDGE: The appearance of a completed application with all spaces filled in.

SKILLS: N/A

ABILITIES: N/A

DECISIONS: Discriminating between complete and incomplete applications.

(Use other side if required)

Figure 6

TRAINING TASK WORKSHEET

Job Title Assistant Coordinator **Date** April 23, 19XX

TASK: 2. Sorts applications according to date received and area.

ELEMENTS:

2.1 After reviewing applications, arranges them by areas A to F. The letter for the area is on the first line of the application at the right.

2.2 After sorting by area, looks at date received stamped on back of application. If all were not received the same day, arranges in date order, putting last date on bottom.

2.3 Puts applications in one pile, in area order. Area A on top, area F on bottom.

PERFORMANCE OBJECTIVE: The trainee will be able to sort applications by letters of the alphabet representing areas of the city. He will also be able to sort applications by date received.

KNOWLEDGE: Alphabet; date order.

SKILLS: N/A

ABILITIES: N/A

DECISIONS: Routine Sequencing.

(Use other side if required)

Figure 6

TRAINING TASK WORKSHEET

Job Title Assistant Coordinator **Date** April 23, 19XX

TASK: 5. Interviews applicant to find out if he has chauffeur's license and fills in any missing information on application.

ELEMENTS:

5.1 Takes applications of applicants notified to report to reception area where applicants are waiting.

5.2 Pairs up applicants and applications.

5.3 Marks application of those that did not report with X in right hand corner.

5.4 Reviews applications with red check mark in upper right hand corner to determine what information is required.

5.5 Asks applicant for missing information.

5.6 Fills in missing information.

5.7 Reviews application to be sure it is complete.

5.8 Asks each applicant if he has a chauffeur's license with him.

5.9 If applicant has license, examines license to deteruine if it is valid.

5.10 Marks application in upper left hand corner "CL" to indicate which applicants have chauffeur license.

PERFORMANCE OBJECTIVE: 1. The trainee will be able to match applicants with applications, ask the necessary questions to obtain information to complete the application.

2. He will be able to recognize a valid chauffeur's license.

KNOWLEDGE: 1. The appearance of a completed application with all spaces filled in.

2. The appearance of a valid chauffeur's license.

SKILLS: N/A

ABILITIES: The ability to ask appropriate questions to get required information.

DECISIONS: 1. Discriminating between complete and incomplete applications.

2. Discriminating between valid and invalid chauffeur's license.

(Use other side if required)

Figure 6

TRAINING TASK WORKSHEET

Job Title (Sample copy) _____ **Page** ___ **of** _____

Date _____

TASK:

ELEMENTS:

PERFORMANCE OBJECTIVE:

KNOWLEDGE:

SKILLS:

ABILITIES:

DECISIONS:

(Use other side if required)

Figure 7

After completing steps 1 through 3 we are now ready for step 4; decide whether the specific knowledge or skill should be acquired in a classroom-learning experience or on-the-job.

Answers to the following questions will help in making that determination:

1. How many trainees will there be?
2. What problems will be involved in assembling trainees for classroom training?
3. What problems will be involved in simulating real-life situations?
4. What difficulties will the trainees have in transferring the skills and knowledge acquired to the work situation?

Answering the above questions, we find that in this specific situation, since the number of trainees is limited to one, the training should be done on-the-job. If the number of trainees were five or more, some classroom training probably would be worthwhile.

Sequencing Content for Training

Learning is a "building block" process which results in a change of behavior. A change in behavior, in this context, means that after training, a person demonstrates he can do something that he could not do before the training (such as touch typing at a specific speed). Changes in what a person is able to do are developed gradually and in stages. Sequencing is the process by which learning experiences are placed in the order which will produce the most learning in the shortest period of time. Adequate sequencing avoids both unnecessary duplication and gaps in content, and assures that requisite knowledges and skills are developed before the complete behavior is to be demonstrated.

Types of Sequencing

The sequence of lessons in a course of instruction or in on-the-job training can be based on one or both of the following conditions:

a. *Job performance order*

   Job performance sequence is the actual order by which a job, duty, task or element is performed.

b. *Psychological order*

   Psychological order sequence is an ordering of content based on ease of learning. In general, it means that older learnings serve as the basis for new learnings, that when possible, the learner moves from the simple to the complex, from the familiar to the unknown, from the concrete to the abstract.

In actual practice, both types of sequencing will be used in course development. Sequencing decisions, however, must be based on the content involved in the development of specific job task or element performances. Both content selection and sequencing should be completed before *lesson plans* and *teaching* aids are developed.

Sequencing Guides

The following guides should be used in determining the sequence of tasks and the sequencing of elements with a task:

a. Place easily-learned tasks early in the training.
b. Introduce early in the sequence broad concepts and technical terms which have application throughout the training.
c. Place application of concepts close to the point of initial development, (I.D.).
d. Place requisite skills and knowledges in the sequence prior to the points where they must be combined with subsequent ones and applied.

e. Provide for maintenance reinforcement and review of skills and knowledges which are essential parts of later tasks and duties.
f. Introduce a concept or skill in the task in which it is most likely, or more frequently, to be used.
g. Don't "overload" any session with difficult-to-learn elements.
h. Provide for redevelopment and practice of required skills and concepts in areas where transfer of identical or related skills is not likely to occur.
i. Place complex or cumulative skills late in the training sequence.

Initial Sequencing

Arrange the KSAD's in developmental learning order as follows:

a. Using the sequencing guides discussed above, lay out the training task worksheets.
b. Determine whether each item of content should be initially developed with the task where it first appears in the sequence of tasks. If so, note on the worksheet "I.D." (initial development). Note all duplicate items "P.R." (prerequisite). These are job elements which are required for the task but which will be developed earlier in the sequence. (see Figure 9)
c. Develop tentative content outline (See Figure 8.) based on initial sequencing and consideration of whether training content should follow job performance order or psychological order. In our example, Task 2, Sorting Applications is simpler than Task 1, Reviewing Applications; consequently, in a classroom situation, it may be advisable to teach the knowledge and decisions for Task 2 before teaching Task 1, i.e. in psychological order. If the training is to be done on-the-job, however, it may be less confusing to teach the tasks in Job Performance order, thus Task 1 would be taught prior to Task 2.

TENTATIVE TRAINING CONTENT OUTLINE

Task No.	Performance Objective	Training Content Outline
1	Recognize omissions from application. Indicate where information should be.	1.1 Appearance of a completed application. 1.2 Discriminating between complete and incomplete applications.
2	Sort applications by alphabet representing areas of city. Sort by date received.	2.1 Alphabetizing. 2.2 Date order. 2.3 Routine sequencing.
5	Match applicants and applications. Ask questions to get necessary information and complete applications. Recognize valid chauffeur licenses.	5.1 Appearance of valid chauffeur's license. 5.2 Ask questions to get information missing from applications. 5.3 Discriminate between valid and invalid chauffeur licenses.

Figure 8

TRAINING TASK WORKSHEET

PERFORMANCE OBJECTIVE: The trainee will be able to recognize omissions of information from applications and will indicate where the information should be.

KNOWLEDGE: The appearance of a completed application with all spaces filled in. (I.D.)

SKILLS: N/A

ABILITIES: N/A

DECISIONS: Discriminating between complete and incomplete applications (I.D.)

PERFORMANCE OBJECTIVE: The trainee will be able to sort applications by letters of the alphabet representing areas of the city. He will also be able to sort applications by date received.

KNOWLEDGE: Alphabet; date order. (I.D.)

SKILLS: N/A

ABILITIES: N/A

DECISIONS: Routine Sequencing (I.D.)

PERFORMANCE OBJECTIVE: 1. The trainee will be able to match applicants with applications, ask the necessary questions to obtain information to complete the application.

2. He will be able to recognize a valid chauffeur's license.

KNOWLEDGE: 1. The appearance of a completed application with all spaces filled in.

2. The appearance of a valid chauffeur's license. (I.D.)

SKILLS: N/A

ABILITIES: The ability to ask appropriate questions to get required information (I.D.)

DECISIONS: 1. Discriminating between complete and incomplete applications.

2. Discriminating between valid and invalid chauffeur's license (I.D.)

(Use other side if required)

Figure 9

DETAILED TRAINING CONTENT OUTLINE

Content of Training	Materials
1. Give trainee a blank application, ask him to fill it in as if he were applying for the position.	1. Blank application for each trainee.
2. Review the application to see if any information is missing.	2. Six applications which have been filled in. Four of these applications should have omitted items (a complete set for each trainee).
3. Discuss with him the omissions.	3. Red pencil for each trainee.
4. Give him six applications, four of which have omissions of information. Tell him to put the incomplete applications in one pile.	
5. Check to see if he has made the correct discrimination.	
6. Give him an incomplete application, ask him to put a small red check-mark at the beginning of a line where information has been omitted and a checkmark in the upper right hand corner. (He may look at his own completed application for checking purposes.)	
7. Check to see if he has marked all lines where information is missing.	
8. If he overlooked any omitted item, give him another incomplete application to review and mark.	
9. Review second application to see if all omitted items have been marked.	

Figure 10

Refined Content Outline

Review the Tentative Content Outline and circle the KSAD's that are more difficult and which should be sequenced later in the training. In our example, ability, 5.2, "Ask questions to get appropriate information," probably would be the most difficult of all the tasks and after all the tasks and tentative training content had been listed, this ability would be included along with other oral language skills in the later portion of the training.

The next step is to develop a detailed training content outline, see Figure 10, including materials that will be required for training.

The methods outlined are quite detailed and appear even more so because of the relatively easy tasks used for illustrative purposes. However, it is this kind of detail that will make effective training possible. Careers for the disadvantaged are too important to be jeopardized by mediocre training efforts. The detailed step-by-step procedures outlined in this booklet could well make the difference between failure and success for someone getting started in a new career. For the disadvantaged this success may be the beginning of hope in breaking out of the lifelong cycle of failure, frustration and hopelessness.

Appendix A

WORKER FUNCTIONS

Every task in a job requires the worker to function in relation to data, people, and things in varying degrees. These relationships are expressed in terms of worker functions and are arranged in a hierarchy for each relationship from the simple to the complex in such a manner that, generally, each successive function can include those that are simpler and exclude those that are more complex. A combination of the highest functions which the worker performs in relation to data, people, and things expresses the total level of complexity for the task-worker situation.

Structure of Worker Functions

DATA (1st digit)	PEOPLE (2d digit)	THINGS (3d digit)
0 Synthesizing	0 Mentoring	0 Setting-Up
1 Coordinating	1 Negotiating	1 Precision Working
2 Analyzing	2 Instructing	2 Operating—Controlling
3 Compiling	3 Supervising	3 Driving—Operating
4 Computing	4 Diverting	4 Manipulating
5 Copying	5 Persuading	5 Tending
6 Comparing	6 Speaking—Signaling	6 Feeding—Offbearing
	7 Serving	7 Handling
	8 Taking Instructions—Helping	

SOURCE: U.S. Department of Labor, Manpower Administration, *A Handbook for Job Restructuring, 1970.*

DATA: Information, knowledge, and conceptions related to data, people, or things, obtained by observation, investigation, interpretation, visualization, mental creation; incapable of being touched; written data take the form of numbers, words, symbols; other data are ideas, concepts, oral verbalization.

0 Synthesizing: Integrating analyses of data to discover facts and/or develop knowledge, concepts, or interpretations.

1 Coordinating: Determining time, place, and sequence of operations or action to be taken on the basis of analysis of data; executing determinations and/or reporting on events.

2 Analyzing: Examining and evaluating data. Presenting alternative actions in relation to the evaluation is frequently involved.

3 Compiling: Gathering, collating, or classifying information about data, people, or things. Reporting and/or carrying out a prescribed action in relation to the information is frequently involved.

4 Computing: Performing arithmetic operations and reporting on and/or carrying out a prescribed action in relation to them. Does not include counting.

5 Copying: Transcribing, entering, or posting data.

6 Comparing: Judging the readily observable functional, structural, or compositional characteristics (whether similar to or divergent from obvious standards) of data, people, or things.

PEOPLE: Human beings; also animals dealt with on an individual basis as if they were human.

0 Mentoring: Dealing with individuals in terms of their total personality in order to advise, counsel, and/or guide them with regard to problems that may be resolved by legal, scientific, clinical, spiritual, and/or other professional principles.

1 Negotiating: Exchanging ideas, information, and opinions with others to formulate policies and programs and/or arrive jointly at decisions, conclusions, or solutions.

2 Instructing: Teaching subject matter to others, or training others (including animals) through explanation, demonstration, and supervised practice; or making recommendations on the basis of technical disciplines.

3 Supervising: Determining or interpreting work procedures for a group of workers, assigning specific duties to them, maintaining harmonious relations among them, and promoting efficiency.

4 Diverting: Amusing others.

5 Persuading: Influencing others in favor of a product, service, or point of view.

6 Speaking-Signaling: Talking with and/or signaling people to convey or exchange information. Includes giving assignments and/or directions to helpers or assistants.

7 Serving: Attending to the needs or requests of people or animals or the expressed or implicit wishes of people. Immediate response is involved.

8 Taking Instructions-Helping: Attending to the work assignment instructions or orders of supervisor. (No immediate response required unless clarification of instructions or orders is needed.) Helping applies to "nonlearning" helpers.

THINGS: Inanimate objects as distinguished from human beings, substances, or materials; machines, tools, equipment; products. A thing is tangible and has shape, form, and other physical characteristics.

0 Setting-Up: Adjusting machines or equipment by replacing or altering tools, jigs, fixtures, and attachments to prepare them to perform their functions, change their performance, or restore their proper functioning if they break down. Workers who set up and personally operate a variety of machines are included here.

1 Precision Working: Using body members and/or tools or work aids to work, move, guide, or place objects or materials in situations where ultimate responsibility for the attainment of standards occurs and selection of appropriate tools, objects, or materials, and the adjustment of the tool to the task require exercise of considerable judgment.

2 Operating-Controlling: Starting, stopping, controlling, and adjusting the progress of machines or equipment designed to fabricate and/or process objects or materials. Operating machines involves setting up the machine and adjusting the machine or material as the work progresses. Controlling equipment involves observing gages, dials, etc. and turning valves and other devices to control such factors as temperature, pressure, flow of liquids, speed of pumps, and reactions of materials. Set up involves several variables and adjustment is more frequent than in tending.

3 Driving-Operating: Starting, stopping, and controlling the actions of machines or equipment for which a course must be steered, or which must be guided, in order to fabricate, process, and/or move things or people. Involves such activities as observing gages and dials; estimating distances and determining speed and direction of other objects; turning cranks and wheels; pushing clutches or brakes; and pushing or pulling gear lifts or levers. Includes such machines as cranes, conveyor systems, tractors, furnace charging machines, paving machines, and hoisting machines. Excludes manually powered machines, such as handtrucks and dollies, and power assisted machines, such as electric wheelbarrows and handtrucks.

4 Manipulating: Using body members, tools, or special devices to work, guide, or place objects or materials. Involves some latitude for judgment with regard to precision attained and selecting appropriate tool, object, or material, although this is readily manifest.

5 Tending: Starting, stopping, and observing the functioning of machines and equipment. Involves adjusting materials or controls of the machine, such as changing guides, adjusting timers and temperature gages, turning valves to allow flow of materials, and flipping switches in response to lights. Little judgment is involved in making these adjustments.

6 Feeding-Offbearing: Inserting, throwing, dumping, or placing materials in or removing them from machines or equipment which are automatic or tended or operated by other workers.

7 Handling: Using body members, handtools, and/or special devices to work, move, or carry objects or materials. Involves little or no latitude for judgment with regard to attainment of standards or in selecting appropriate tool, object, or material.

Appendix B

Scale of General Educational Development

Level	Reasoning Development	Mathematical Development	Language Development
6	Apply principles of logical or scientific thinking to a wide range of intellectual and practical problems. Deal with nonverbal symbolism (formulas, scientific equations, graphs, musical notes, etc.) in its most difficult phases. Deal with a variety of abstract and concrete variables. Apprehend the most abstruse classes of concepts.	Advanced calculus: Work with limits, continuity, real number system, mean value theorems, implicit function theorems. Modern algebra: Apply fundamental concepts of theories of groups, rings, and fields. Work with differential equations, linear algebra, infinite series, advanced operational methods, functions of real and complex variables. Statistics: Work with mathematical statistics, mathematical probability and applications, experimental design, statistical inference, econometrics.	Reading: Read literature book and play reviews, scientific and technical journals, abstracts, financial reports, and legal documents. Writing: Write novels, plays, editorials, journals, speeches, manuals, critiques, poetry, and songs. Speaking: Conversant in the theory, principles, and methods of effective and persuasive speaking voice and diction, phonetics, and discussion and debate.
5	Apply principles of logical or scientific thinking to define problems, collect data, establish facts, and draw valid conclusions. Interpret an extensive variety of technical instructions in books, manuals, and mathematical or diagrammatic form. Deal with several abstract and concrete variables.	Algebra: Work with exponents and logarithms, linear equations, quadratic equations, mathematical induction and binomial theorem, permutations. Calculus: Apply concepts of analytic geometry, differentiations and integration of algebraic functions with applications. Statistics: Apply mathematical operations to frequency distributions, reliability and validity of tests, normal curve, analysis of variance, correlation techniques, chi-square application and sampling theory, factor analysis.	Same as level 6
4	Apply principles of rational systems[1] to solve practical problems and deal with a variety of concrete variables in situations where only limited standardization exists. Interpret a variety of instructions furnished in written, oral, diagrammatic, or schedule form.	Algebra: Deal with system of real numbers; linear, quadratic, rational, exponential, logarithmic, angle and circular functions, inverse function; related algebraic solution of equations and inequalities; limits and continuity, probability and statistical inference. Geometry: Deductive axiomatic geometry, plane and solid, using properties of real numbers; use of rectangular coordinates. Shop Math: Practical application of fractions, percentages, ratio and proportion, measuration, logarithms, slide rule, algebra, geometric construction, essentials of trigonometry.	Reading: Read novels, poems, newspapers, periodicals, journals, manuals, dictionaries, thesauruses, and encyclopedias. Writing: Business letters, expositions, summaries, reports, using prescribed format and conforming to all rules of punctuation, grammar, diction, and style. Speaking: Participate in panel discussions, dramatizations, and debates. Speak extemporaneously on a variety of subjects.

[1] Examples of rational systems are: Bookkeeping, internal combustion engines, electric wiring systems, housebuilding, nursing, farm management.

SOURCE: U.S. Department of Labor, Manpower Administration, *A Handbook for Job Restructuring, 1970.*

GED Scale (Continued)

Level	Reasoning Development	Mathematical Development	Language Development
3	Apply common sense understanding to carry out instruction furnished in written, oral, or diagrammatic form. Deal with problems involving several concrete variables in or from standardized situations.	Compute discount, interest, profit and loss, commission, markup, and selling price, ratio and proportion, and percentage. Calculate surfaces, volumes, weights and measures. Algebra: Calculate variables and formulas, monomials and polynomials, ratio and proportion variables, square roots and radicals. Geometry: Calculate plane and solid figures, circumference and area, volume. Understand kinds of angles, and properties of pairs of angles.	Reading: Read a variety of novels, magazines, atlases, and encyclopedias. Read safety rules, instruction in the use and maintenance of shop tools and equipment, methods and procedures in mechanical drawing and layout work. Writing: Write reports and essays in proper format, punctuation, spelling, grammar, using all parts of speech. Speaking: Speak before an audience with poise, voice control, and confidence, using correct English and well-modulated voice.
2	Apply common sense understanding to carry out detailed but uninvolved written or oral instructions. Deal with problems involving a few concrete variables in or from standardized situations.	Add, subtract, multiply, and divide all units of measure. Perform the four operations with like common and decimal fractions. Draw and interpret bar graphs. Perform arithmetic operations involving all American monetary units.	Reading: Passive vocabulary of 5,000-6,000 words. Read at rate of 190-215 words per minute. Read adventure stories, comic books, looking up unfamiliar words in dictionary for meaning, spelling, and pronunciation. Read instructions for assembly of model cars and airplanes. Writing: Write compound and complex sentences, using cursive style, proper end punctuation, and employing adjectives and adverbs. Speaking: Speak clearly and distinctly with appropriate pauses and emphasis, correct pronunciation, variations in word order, and using present, perfect, and future tenses.
1	Apply common sense understanding to carry out simple one- or two-step instructions. Deal with standardized situations with occasional or no variables in or from these situations encountered on the job.	Add and subtract two-digit numbers. Multiply and divide 10's and 100's by 2, 3, 4, 5. Perform the four basic arithmetic operations with coins as part of a dollar. Perform operations with units such as cup, pint, quart; inch, foot, yard; ounce, pound.	Reading: Recognize meaning of 2,500 (two- or three-syllable) words. Read at rate of 95-120 words per minute. Compare similarities and differences between words and between series of numbers. Writing: Print simple sentences containing subject, verb, and object, and series of numbers, names, and addresses. Speaking: Speak simple sentences, using normal word order, and present and past tenses.

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